



Theme: Water (Grades 3-5)

Post-Visit Activity #2 Water Maps

Overview:

Where does our water come from? Fill a glass of water from the classroom drinking fountain, or let the children watch you fill a glass at the drinking fountain in the hallway. Where did the water come from? How did it arrive at the fountain you used?

Objectives:

- Students will use their knowledge about the source of our water gained from the activity they participated in at the Springs Preserve.
- Students will study geography.
- Students will draw the form of water they believe holds the water for consumption.

Materials:

- One cup
- Water fountain
- Drawing paper
- Pencils
- Crayons
- Poster paper (two sheets)

Vocabulary:

- Lake – A standing body of water surrounded by land
- Lake Mead – One of the largest artificial lakes in the world (115 miles long), created when Hoover Dam was built on the Colorado River
- Reservoir – A place where water is collected and stored for use
- Storage tanks – Water tanks that are used for storage and which come in several shapes and sizes: elevated, ground, and standpipe
- Water treatment facility – A place where water is made safe to use
- Well – A bored, drilled, driven shaft, or dug hole. Wells range from a few feet to more than 6 miles in depth, but most water wells are between 100 and 2,000 feet in depth.

Background:

It can take several days for water to reach a person's tap from Lake Mead. Water from the lake travels through a large intake, and goes to either the Alfred Merritt Smith Water Treatment Facility or the River Mountains Water Treatment Facility. After an hour at the treatment plant, water is directed through a pipeline at least six feet in diameter to pumping stations. Each station guides water in different directions. There are several pipelines which deliver water to different parts of the valley. From those lines, pump stations direct water through smaller pipe systems running directly to residents' homes. Several reservoirs along the way hold water temporarily. The reservoirs also act as emergency storage facilities. In case of emergencies, water in the reservoirs could last from two to five days.

The Southern Nevada Water Authority provides water to the valley's different jurisdictions. To help keep track of which municipality receives water, water is diverted to different areas by using "rate of flow" stations. These stations act as water meters for different cities, keeping track of each area's water consumption.

Activity:

1. Give the class three to five minutes of quiet time to think about how the water was able to come to the water fountain. Ask students to draw and label on their piece of drawing paper a "water map" of the water's journey from its starting point at Lake Mead all the way to the fountain.
2. As students complete the task, encourage them to share their drawings and ideas with other members of their working groups. Individual students may wish to make changes or add to their own drawings. Tell the students that each group will be given a chance to share with the rest of the class its ideas about how the water traveled to the fountain.
3. While listening to the students give reports on their "water map," assess individuals and the class' understandings about the water system. (Did the students draw Lake Mead? Indicate wells of some kind? Show reservoirs/storage tanks? Show that pipes are used to transport water? Show water treatment facilities? Show some indication of the water cycle? Label their drawing? Talk about the drawing with others? Change the drawing when new information was added?)
4. Record students' ideas on a large chart on a piece of poster paper or the blackboard for reference over time. Ask students for questions that still remain and record the questions on a separate research board. As students think of other questions, they may add them to the research board.

Discussion:

How could we discover more about where our tap water comes from? Who helps water get to our homes? Are there any rules about using water? How could we find out?

Suggested Reading:

1. ***Brother Eagle, Sister Sky: A Message from Chief Seattle*** illustrated by Susan Jeffers. A story about Native American beliefs and how each generation deserves to breathe fresh air, drink pure water and to enjoy all the beauty that the earth offers.
2. ***The Drop in My Drink*** by Meredith Hooper and Chris Coady. Water takes on fascinating new significance as readers discover the amazing complexity of a substance we take for granted. Includes a detailed depiction of water cycles, amazing facts and important environmental information.
3. ***A Drop of Water: A Book of Science and Wonder*** by Walter Wick. Shows the different forms of water in amazingly detailed photographs; explains water's properties.
4. ***The Earth and I*** by Frank Asch. Explains the friendship between the earth and a young child and what each can do for the other. .
5. ***Gullywasher*** by Joyce Rossi. In English and Spanish. A grandfather tells tall tales of his life as a cowboy (vaquero) and of the harsh life in the desert, flash floods, and wildlife.
6. ***I Am Water*** by Jean Marzollo. A first book about water in its different forms and uses.
7. ***One Small Square: Cactus Desert*** by Donald M. Silver. Teaches about all the plants and wildlife that exist in one small square of desert - an excellent introduction to ecosystems and biodiversity.
8. ***Snail Girl Brings Water*** by Geri Reams. A retelling of a traditional Navaho creation myth which explains how water came to earth.
9. ***This Place is Dry*** by Vicki Cobb, illustrated by Barbara Lavallee. Surveys the living conditions in Arizona's Sonoran Desert for the people and the unusual animals that live there. Also describes the engineering accomplishment of the Hoover Dam.
10. ***Water Science, Water Fun: Great Things to Do with H₂O*** by Noel Fiarotta and Phyllis Fiarotta. Lessons and experiments teach about floating, refraction, leaching temperature gravity, buoyancy, flow and other water properties.
11. ***Where Does Water Come From?*** by C. Vance Cast. Clever Clavin shows how much water there is on earth, how wells are dug to bring it out of the ground, and how water treatment plants work.
12. ***The Woman Who Outshone the Sun/La Mujer Que Brillaba Aún Más Que el Sol*** by Alejandro Cruz Martinez, illustrated by Fernando Olivera. A bilingual tale from ancient Mexico that tells of a beautiful woman who arrives in a mountain village and is driven out because she is different, taking the river with her.